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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,551	09/22/2003	Alexander Dmitrievich Fedorov	5101-103.2US	9978
7590	10/06/2004		EXAMINER	
Synnestvedt, Lechner & Woodbridge, LLP P.O. Box 592 Princeton, NJ 08542			COOLEY, CHARLES E	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/667,551	FEDOROV ET AL.
	Examiner Charles E. Cooley	Art Unit 1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 22-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 22-25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## OFFICE ACTION

1. This application has been assigned to Technology Center 1700, Art Unit 1723 and the following will apply for this application:

Please direct all written correspondence with the correct application serial number for this application to Art Unit 1723.

Telephone inquiries regarding this application should be directed to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 or to the Examiner at (571) 272-1139. All official facsimile should be transmitted to (703) 872-9306.

2. As the PTO continues to move towards a fully electronic environment, the office will phase-in its E-Patent Reference program. This program: (1) provides downloading capability of the U.S. patents and U.S. patent application publications cited in Office actions via the E-Patent Reference feature of the Office's PAIR system; and (2) ceases mailing paper copies of U.S. patents and U.S. patent application publications with office actions except for citations made during the international stage of an international application under PCT.

Effective June 2004, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions from this Technology Center. Paper copies of foreign patents and non-patent literature will continue to be included with office actions.

The U.S. patents and patent application publications cited in office actions are available for download via the Office's PAIR system. As an alternate source, all U.S.

patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Inquiries about the use of the Office's PAIR system should be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

### ***Specification***

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

4. The disclosure is objected to because of the following informalities:

a. Page 1: the continuity data should include the status of 09/876,511 as being U. S. Patent No. 6,648,500 B2 and include a reference to the PCT application (see the first paragraph in col. 1 of US 6,648,500 B2).

b. Page 6, line 5: replace "11 spacers" with --spacers 11--.

Appropriate correction is required.

5. The Abstract of the Disclosure is objected to because:

a. the abstract is not a single paragraph.

b. the inclusion of legal phraseology such as "means" and "said" in the abstract is improper.

Correction is required. See MPEP § 608.01(b).

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed (MPEP 606.01).

***Claim Rejections - 35 U.S.C. § 112, first paragraph***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. The specification is objected to under 35 U.S.C. § 112, first paragraph, as the specification, as originally filed, does not provide support for the invention as is now claimed.

9. The examiner reviewed the specification and found no support for the liquid being "water", "wastewater", or "raw sewage" as claimed in new claim 24. Furthermore, the examiner found no support for the subject matter of new claim 25. Claims 24-25 therefore involve new matter.

10. Claims 24-25 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

***Claim Rejections - 35 U.S.C. § 112, second paragraph***

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22: all occurrences of "said stator" should be changed to --said one or more stators-- for consistency and clarity.

Claim 24 does not indicate any dependency and is missing text.

Claim 22-23: Attempts to claim a process without setting forth any steps involved in the process generally raises an issue of indefiniteness under 35 U.S.C. 112, second paragraph. For example, a claim which read: "A process for using monoclonal antibodies of claim 4 to isolate and purify human fibroblast interferon." was held to be indefinite because it merely recites a use without any active, positive steps delimiting how this use is actually practiced. *Ex parte Erlich*, 3 USPQ2d 1011 (Bd. Pat. App. & Inter. 1986). Claims 22-23 are therefore indefinite because it sets forth "A method for treatment of a liquid" yet the bodies of the claims merely sets forth structural elements or apparatus limitations which do not recite any active, positive steps delimiting how the liquid is treated.

Each pending claim should be thoroughly reviewed such that these and any other informalities are corrected so the claims may particularly point out and distinctly claim the subject matter which applicant regards as the invention, as required by 35 U.S.C. § 112, second paragraph.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**14. Claims 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Zipperer (US 3,940,115).**

The patent to Zipperer '115 discloses a method for the treatment of a liquid comprising passing the liquid through an ultrasonic treatment device, said ultrasonic treatment device comprising a body 7; one or more stators 1 (col. 7, lines 22-26 teaches multiple oppositely disposed stators) having a bushing (between 1 and 7 in Fig. 1) and a disk 1, said disk 1 having a face with a plurality of turbulizing elements 3 and mounted so that said one or more stators can vibrate, independently of each other, at ultrasonic frequencies (col. 1, lines 5-15; col. 3, lines 39-41; and col. 5, lines 10-12); a rotor 2 having a disk 2 and having a central axis of rotation which is perpendicular to the plane of said disk, said disk 2 being rotatable relative to said stator 1 and said body 7 and having at least one face with a plurality of turbulizing elements 3, 3a2, 3b2, 3c2

arranged in concentric circles relative to said rotor's axis of rotation; a shaft 8 attached coaxially to said rotor; an inherent rotation means attached to said shaft for rotating said rotor at varying speeds (col. 1, lines 43-45 teaches variable speeds); and, an adjusting means 14-18 for adjusting the relative distance between said stator 1 and said rotor 2; wherein the disk face of said one or more stators 1 is opposing said at least one face with turbulizing elements of said rotor 2; wherein adjusting the distance between said rotor 2 and said one or more stators 1 with said adjusting means 14-18 varies the relative distance between the turbulizing elements on said rotor and the turbulizing elements on said stator (col. 2, lines 27-31; col. 3, lines 25-30; and col. 5, lines 30-60); said rotor 2 has a plurality of through slots 4 arranged circumferentially and radially on the rotor 2 (Fig. 3).

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**17. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zipperer (US 3,940,115) in view of Wander et al. (US 4,030,406).**

Zipperer (US 3,940,115) discloses the treatment of fluid substances (col. 2, lines 3-10) but does not disclose the particular substances of claim 24 or bacterial load reduction. The patent to Wander et al. teaches that a rotor disc 1 rotating relative to a stator 2 can be readily implemented for treating fluid substances such as milk for the purpose of sterilizing the substances. It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have utilized the rotor and stator arrangement in Zipperer (US 3,940,115) for treating a fluid substance such as milk as suggested by Wander et al. for the purpose of sterilizing the substance (i.e., reducing the bacterial load in the substance by the recited amount - col. 1, line 9 through col. 2, line 64 and col. 3, lines 47-68).

**18. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 2,738,931) in view of Rider (US 2,591,966).**

The patent to Schneider discloses a method for the treatment of a liquid comprising passing the liquid through an ultrasonic treatment device, said ultrasonic treatment device comprising a body G; one or more stators 2 having a bushing below 4 and a disk 2, said disk 2 having a face with a plurality of turbulizing elements 12, 14 and

mounted so that said one or more stators can vibrate, independently of each other, at ultrasonic frequencies (col. 1, line 43 through col. 2, line 28); a rotor 1 having a disk 1 and having a central axis of rotation which is perpendicular to the plane of said disk, said disk 1 being rotatable relative to said stator 2 and said body G and having at least one face with a plurality of turbulizing elements 11, 13, 17, 27 arranged in concentric circles relative to said rotor's axis of rotation (Figs. 3-4); a shaft (Fig. 1) attached coaxially to said rotor; a rotation means M attached to said shaft for rotating said rotor at varying speeds via rheostat 3; and slots a in the rotor 1. Schneider does not disclose the recited adjusting means. Rider discloses a housing 30; stator 40; rotatable rotor 44; turbulizing elements 38, 54 mounted in a spaced relationship on the stator and rotor; and adjusting means 78 for the adjusting the position or alignment of rotor with respect to the stator. It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided the device of Schneider with adjusting means for the rotor and stator as disclosed by Rider for the purpose of selectively adjusting the clearance between the rotor and stator so that a desired size of material in the resulting product may be obtained (Col. 5, lines 3-51).

**19. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 2,738,931) in view of Neitzke (US 2,159,670).**

Schneider discloses the recited subject matter as noted above but does not disclose the recited adjusting means. Neitzke discloses a housing 16; stator 21; rotatable rotor 24; turbulizing elements 28 mounted on the rotor; and adjusting means 54 for the adjusting the position or alignment of rotor with respect to the stator. It would

have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided the device of Schneider with adjusting means for the rotor and stator as disclosed by Neitzke for the purpose of enabling adjustment of the mixing surfaces to control the intimacy of mixing or the fineness of homogenization or dispersion of the material being treated (Col. 1, lines 14-18 and Col. 4, lines 26-52).

***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited prior art discloses rotor and stator devices and methods of use including the treatment of wastewater and sewage.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Cooley whose telephone number is (571) 272-1139. The examiner can normally be reached on Mon-Fri. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/667,551  
Art Unit: 1723

Page 11



Charles E. Cooley  
Primary Examiner  
Art Unit 1723

30 SEP 2004